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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,478	12/27/2001	Jeom Jae Kim	8733.512.00	7759

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EXAMINER	
ERDEM, FAZLI	

ART UNIT	PAPER NUMBER
2826	

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/026,478	KIM ET AL.	
	Examiner	Art Unit	
	Fazli Erdem	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3, 5, 6, 8, 10, 12, 14, 15, 17, 19, 21, 22, 24-27 and 29* is/are rejected.

7)☒ Claim(s) *2,4,7,9,11,13,16,18,20,23 and 28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Response filed 02/11/2004 has been fully considered. Examiner agrees with some of the arguments, therefore some of the Claims rejected previously are being objected now. Regarding pad pattern requirement, Lee '442 reference in Figures 2, 5 and 6 show pad 10 having same pattern as p1 and p2 test pads.

Allowable Subject Matter

2. Claims 2, 4, 7, 9, 11, 13, 16, 18, 20, 23 and 28 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 5, 6, 8, 10, 12, 14 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (6,255,130) in view of Lee et al. (6,028,442) further in view of Yamamoto et al. (5,530,568) further in view of Hayashi (5,657,139) further in view of Farwell (5,457,381) further in view of Cao et al. (6,530,068).

Regarding Claims 1, 3, 5, 6, 8, 10, 12, 14 and 15, Kim discloses a thin film transistor array panel and a method of manufacturing the same where a gate wire including a gate line, a gate pad, and a gate electrode is formed on the substrate. A gate insulating layer, a semiconductor layer, and an ohmic contact layer are sequentially deposited, and a photoresist layer is coated thereon. The photoresist layer is exposed to light through a mask and developed to form a photoresist pattern. Kim fails to disclose the required test, pitch, pad configuration, on/off pad, and on/off pad configuration. However, Lee et al. disclose a test circuit for identifying open and short circuit defects in a liquid crystal display and method thereof where the required test structure is disclosed. Furthermore, Yamamoto et al. disclose a matrix liquid crystal, display device having testing pads of transparent conductive film where the required pitch structure is disclosed. Hayashi discloses an array substrate for a flat-display device including surge protection circuits and short circuit line or lines where the required pad configuration is disclosed. Farwell discloses a method for testing the electrical parameters of inputs and outputs of integrated circuits without direct physical contact where the required switch on/off test pad structure is disclosed. Finally Cao et al. disclose a device modeling and characterization structure with multiplexed pads where the required on/off pad configuration is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was mad to include the required test, pitch, pad configuration, switch on/off test pad structures, and on/off pad configuration in Kim as taught by Lee et al, Yamamoto et al., Hayashi, Farwell, and Cao et al. respectively, in order to have a liquid crystal display device with better performance.

4. Claims 17, 19, 21, 22 and 24-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Baek et al. (6,524,876) in view of Lee et al. (6,028,442) further in view of Yamamoto et al. (5,530,568) further in view of Hayashi (5,657,139) further in view of Farwell (5,457,381) further in view of Cao et al. (6,530,068).

Regarding Claims 17, 19, 21, 22 and 24-26, Baek et al. disclose a thin film transistor array panels for a liquid crystal display and a method for manufacturing the same where a conductive layer, including a lower layer made of refractory metal such as chromium, molybdenum, and molybdenum ally and an upper layer made of aluminum or aluminum alloy is deposited and patterned to form a gate wire including a gate line, a gate pad, and a gate electrode on a substrate. Baek et al. fail to disclose the required test, pitch, pad configuration, and switch on/off test pad. However, Lee et al. disclose a test circuit for identifying open and short circuit defects in a liquid crystal display and method thereof where the required test structure is disclosed. Furthermore, Yamamoto et al. disclose a matrix liquid crystal, display device having testing pads of transparent conductive film where the required pitch structure is disclosed. Hayashi discloses an array substrate for a flat-display device including surge protection circuits and short circuit line or lines where the required pad configuration is disclosed. Farwell discloses a method for testing the electrical parameters of inputs and outputs of integrated circuits without direct physical contact where the required switch on/off test pad structure is disclosed. Finally Cao et al. disclose a device modeling and characterization structure with multiplexed pads where the required on/off pad configuration is disclosed

It would have been obvious to one of having ordinary skill in the art at the time the invention was mad to include the required test, pitch, pad configuration, and switch on/off test pad structures, and on/off pad configuration in Baek et al. as taught by Lee et al, Yamamoto et al., Hayashi, Farwell, and Cao, respectively, in order to have a liquid crystal display device with better performance.

5. Claims 27 and 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (6,335,211) in view of Lee et al. (6,028,442) further in view of Yamamoto et al. (5,530,568) further in view of Hayashi (5,657,139) further in view of Farwell (5,457,381) further in view of Cao et al. (6,530,068).

Regarding Claims 27 and 29, Lee discloses a thin film transistor array panel for a liquid crystal display having a wide viewing angle and a method for manufacturing the same where a gate wire including a gate line, a gate electrode and a gate pad, and a storage wire including a storage line and a storage electrode are formed on an insulating substrate. Lee fails to disclose the required test, pitch, pad configuration, and switch on/off test pad. However, Lee et al. disclose a test circuit for identifying open and short circuit defects in a liquid crystal display and method thereof where the required test structure is disclosed. Furthermore, Yamamoto et al. disclose a matrix liquid crystal, display device having testing pads of transparent conductive film where the required pitch structure is disclosed. Hayashi discloses an array substrate for a flat-display device including surge protection circuits and short circuit line or lines where the required pad configuration is disclosed. Farwell discloses a method for testing the electrical parameters of inputs and outputs of integrated circuits without direct physical contact where the

required switch on/off test pad structure is disclosed. Finally, Cao et al. disclose a device modeling and characterization structure with multiplexed pads where the required on/off pad configuration is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was mad to include the required test, pitch, pad configuration, switch on/off test pad, and on/off pad configuration structures in Lee as taught by Lee et al, Yamamoto et al., Hayashi, Farwell and Cao et al. respectively, in order to make a liquid crystal display device with better performance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (571) 272-1914. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on(571) 272-1915. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

FE
May 2, 2004

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800